

### **REMARKS**

Claims 1-5 and 17 are pending in this application. Claims 1, 3-5, and 17 have been amended to recite the invention more clearly. Specifically, claim 1 has been amended to incorporate the features of claims 6 and 7. Claims 3-5 have been amended to depend from claim 1. Claims 6-17 have been cancelled without prejudice or disclaimer. Applicants reserve the right to file one or more divisional or continuation applications directed to any canceled subject matter. No new matter has been added by this paper.

#### **1. Claim Objections**

Claims 4-17 are objected to under 37 C.F.R. 1.75(c) as allegedly being improper dependant claims. As noted above, applicants have amended claim 1 to incorporate the features of claims 6 and 7. Applicants have also amended claims 3-5 to depend from claim 1, and have cancelled claims 6-17, thus obviating their objection. Accordingly, Applicants respectfully submit that the objections to claims 4-5 under 37 C.F.R. 1.75(c) should be withdrawn.

#### **2. Claim Rejections under 35 U.S.C. § 102**

Claims 1-3 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,891,560 to Edwards *et al.* ("Edwards"), Japanese Patent Application Publication No. 10-251423 to Kaneshiro *et al.* ("Kaneshiro"), U.S. Patent No. 5,895,808 to Schmid *et al.* ("Schmid"), or U.S. Patent No. 5,223,335 to Inata *et al.* ("Inata") for the reasons discussed on pages 2-4 of the office action.

Applicants have amended independent claim 1 to incorporate the features of claims 6 and 7. Specifically, claim 1, as amended, recites a method of manufacturing fiber-reinforced thermoplastics comprising a reaction step using a bifunctional first reactive compound having two epoxy groups, and a bifunctional second reactive compound having two functional groups selected from among phenolic hydroxyl, amino, carboxyl, mercapto, isocyanate, and cyanate ester. The combination of a first reactive compound which is a "bifunctional compound having two epoxy groups" and a second reactive compound which is "a bifunctional compound having

two functional groups” is not disclosed in the cited prior art references (*i.e.*, Edwards, Kaneshiro, Schmid or Inata).

An epoxy compound generally forms a thermosetting resin by the polymerization reaction. However, by the polyaddition reaction of a first reactive compound with the second reactive compound in the present invention, the thermoplastic is formed in spite of including the “bifunctional compound having two epoxy groups” as a first reactive compound.

The present invention discovers the advantages of a polyaddition reaction between a bifunctional compound having two epoxy groups and a bifunctional compound having two functional groups selected from among phenolic hydroxyl, amino, carboxyl, mercapto, isocyanate, and cyanate ester. According to the present invention, impregnation to reinforcing fibers of the thermoplastics obtained in the uncured thermosetting resin can be successfully achieved because the uncured thermosetting resin containing the first and second reactive compounds has very low viscosity in the mixing step, and because the first bifunctional compound has high adhesiveness to the reinforcing fibers. Therefore, the obtained reinforced thermoplastics contain no damaged reinforcing fibers and significantly suppress voids occurring at the interfaces between the thermoplastics and reinforcing fiber. Accordingly, claim 1 as amended is not anticipated by Edwards, Kaneshiro, Schmid or Inata.

### **Conclusion**

It is respectfully submitted that all claims are now in condition for allowance, early notice of which would be appreciated. Should the Examiner disagree, Applicant respectfully requests a telephonic or in-person interview with the undersigned attorney to discuss any remaining issues and to expedite the eventual allowance of the claims.

No fee is believed to be due for the amendments herein. Except for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any necessary fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17, which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310.

Respectfully submitted,  
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